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OCT 31 2007

AMENDMENTAmendment(s) to the Specification

Please replace the paragraph [0001] on page 1 with the following amended paragraph:

[0001] The subject matter of this application is generally related to the subject matter of commonly assigned, co-pending U.S. Patent Application No. [[____]] 10/622,978, entitled "Facilitating Computer-Aided Diagnosis, Comparison, And/Or Display Of Medical Images" and filed concurrently ~~herewith~~ on July 18, 2003, which was published on 10/28/2004 as US2004/0213447A1, the entirety of which is incorporated herein by reference.

Please replace the paragraph [0037] on page 8 with the following amended paragraph:

[0037] **FIGS. 14A-14D** illustrate an example of an analog to ~~digital~~ analog transformation in which **FIGS. 14A** and **14B** are input images, **FIG. 14C** shows transformed image, and **FIG. 14D** contains the scatter plot of pixel-values together with a plot of the parametric model.

Please replace the paragraph [0039] on pages 8-9 with the following amended paragraph:

[0039] **FIG. 1A** shows an outside view of a computer aided diagnostic (CAD) system 100, such as an ~~Image Checker~~ IMAGE CHECKER M1000 from R2 Technology, Inc., for assisting in the identification of suspicious lesions in medical images such as mammograms. CAD system 100 generally includes a CAD processing unit 102 and a viewing station 104. The CAD processing unit 102 may scan and digitize an x-ray image, such as a developed x-ray mammogram 106, into a digital image and/or receive a digital image as input. According to a preferred embodiment, the CAD processing unit 102 receives at least two mammogram images of a same or similar view of the same breast, e.g., the craniocaudal (CC) or the mediolateral oblique (MLO) view, taken at different times in order to facilitate comparison of multiple medical images. The CAD processing unit 102 then processes the digitized and/or digital images to register the images relative to each other and outputs grayscale registered digital images for viewing at the viewing station 104. Additionally or alternatively, the CAD processing unit 102 may perform image processing steps to process at least one of the grayscale registered digital image in order to display a highlighted digital image having information directing the attention of the radiologist to suspicious areas. Preferably, the image process steps takes into account a comparison of the multiple medical images.

Please replace the paragraph [0068] on page 19 with the following amended paragraph:

[0068] Illustrative empirically obtained sensitometric or characteristic curves are shown in FIG. 6 merely as examples. In particular, FIG. 6 shows empirically obtained sensitometric curves for two illustrative types of film, i.e., ~~Kodak~~ KODAK MIN-R2000 and ~~Agfa~~ AGFA HDR along with their best fitting (least squares) logistic functions.

On page 37, please delete lines 1-2 which contains the title.

On page 37, please amend the Abstract with the following amended paragraph:

Numerical image processing based on a model of medical image acquisition of two or more medical images to provide grayscale registration ~~thereof is described, the numerical image processing algorithms being based at least in part on a model of medical image acquisition.~~ The grayscale registered temporal images may then be displayed for visual comparison ~~by a clinician~~ and/or further processed by a computer-aided diagnosis ~~(CAD)~~ system for detection of medical abnormalities therein. A parametric method includes spatially registering two images and performing gray scale registration of the images. A parametric transform model, e.g., analog to analog, digital to digital, analog to digital, or digital to analog model, is selected based on the image acquisition method(s) of the images, i.e., digital or analog/film. Gray scale registration involves generating a joint pixel value histogram from the two images, statistically fitting parameters of the transform model to the joint histogram, generating a lookup table, and using the lookup table to transform and register pixel values of one image to the pixel values of the other image. ~~The models take into account the most relevant image acquisition parameters that influence pixel value differences between images, e.g., tissue compression, incident radiation intensity, exposure time, film and digitizer characteristic curves for analog image, and digital detector response for digital image. The method facilitates temporal comparisons of medical images such as mammograms and/or comparisons of analog with digital images.~~